

**Price \$1.00**

August 1982

SATURDAY, August 21th, 1982

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PRESIDENT'S RAM

HIGH RESOLUTION SCREEN DUMPING

SMART MODEM FOR THE DUMB

HOW TO WRITE A PROGRAM

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WHAT'S HAPPENING AT THE AUGUST MEETING

BEGINNERS' BASIC CLASS - PART 3

Our education, Linda Scott, will be conducting the third class on BASIC for beginners before our regular meeting on Saturday. The class begins at 3PM. Be sure to bring your *ATARI* Basic manuals.

Club Library will be open from 3:30 to 4:00 and after our business meeting which begins at 4:00 PM.

Be sure to look over the new literature library. A checkout system has been set up which allows MILATARI members to take material home.

MICROLEDGER and MICROPERS software from COMPUMAX will be demonstrated along with several new games such as SHAMUS by Synapse Software.

fig-FORTH 1.4 from the Bay Area ATARI User Group is now available from the club library. Some documentation on disk.

PRESIDENT'S RAM

by Gary Nolan

Well, here goes the first of what we hope will become a regular feature for the newsletter.

The first topic I'd like to cover concerns member involvement in the group. Membership in MILATARI not only allows you to attend the meetings, borrow from the libraries and receive the benefits of group purchases and discounts. But also to participate in the input to the group. One form of input is this newsletter. Dave has done a great job putting out the letter until you learned about your computer and became more familiar and comfortable with the group. Well the time has come for you to give Dave a hand in putting this together. It doesn't take a lot of talent, just an idea. Take a look at some of the newsletters we get from other groups at the next meeting. These are good examples of member involvement. Program reviews are always needed, as well as programming tips from some of you better programmers. Volunteers are needed to key in programs for the library, on both disk and cassette. Back issues of magazines will be supplied to those interested. User written programs are needed for both the library and for demos at the meetings. I know that there are some good ones out there because I've seen them. Remember this is your users group. And the only way it can grow and become useful is for YOU to help. End of sermon.

Rumors confirmed:

#1 The BYTE SHOP on Layton Ave. is now selling ATARI computers. Anyone who has dealt with them knows the kind of people they are. Helpful, knowledgeable and friendly gives you some idea. Right now only people who buy systems from them will receive discounts on purchases.

#2 ATARI is finally getting it's mailing list straightened out. Some of you who filled out the mailing list forms started to receive things before I mailed them in.

Rumors unconfirmed:

#1 The new ATARI computer will be called the 2000. It will have built in drives, a built in printer and a slot for quarters on the side.

News item:

#2 There is a collage back east, The Stevens Institute of Technology that requires students planning to study computer science, systems planning or management to own a personal computer. An ATARI 800 computer to be exact. The ATARI was chosen because of it's capabilities and price.

#3 Look for a new line of computers from Comodore. Two of

which will push ATARI into a new computer and price reductions, if Comodore can live up to its press releases and price schedules. See the Aug. issue of COMPUTE for more info.

New products:

Inexpensive speech is here. Two new products give the 800/400 computers a chance to speak. The first is from The ALIEN Group and is called The VOICEBOX. It uses the VORTRAX speech synthesizer chip. It's similar in performance to the VORTRAX TYPE 'N TALK that has been around for some time. (This unit was demo'd at an earlier meeting by Nick Liberski.) The method for producing speech is very easy to catch on to. The unit works with both disk and cassette based systems. The VOICEBOX will be demo'd at the August meeting. It lists for \$169. The other item is software based and comes on disk. It's called SAM--SOFTWARE AUTOMATIC MOUTH. It also uses a phoneme spelling system to produce speech and comes from DON'T ASK, COMPUTER SOFTWARE. This might arrive in time to be demo'd so we may be able to do a comparison.

Other new products include a direct connect modem and numeric keypad from ATARI. The modem is part of The Communicator II kit that also includes the Telelink II cartridge (that still doesn't allow disk dumps of data). The numeric keypad is part of The Bookkeeper Kit that has an accounting program as the other component.

Would you pay four or five dollars for a chance to win a 9" green screen 80 col. monitor? Be at the next meeting for more information. Also at August meeting we'll have a report on the SIGHTS AND SOUNDS show held at MECCA for those of you who didn't attend.

We are putting another disk order together. The prices will be \$19 for a box of 10 diskettes. All orders will be cash in advance.

There will be a brief officers meeting 15 minutes before the business session. It is important that ALL officers be in attendance to sign club certification papers required by ATARI.

Well that's it for this month. Now that you see how easy it is to write something like this lets see some action. How about the people that bought the LETTER PERFECT carts, maybe a review?.....BYE

SMART MODEM FOR THE DUMB

by Hank Hirschfeld

Recently I was in the market for a phone modem for my computer. I finally decided on the HAYES STACK SMARTMODEM and the following are my reasons for making this choice.

The first decision was regarding either the acoustical or direct phone interface. The acoustical uses the phone headset which is laid in a modem cradle - this requires the use of the standard style phone and not any of the newer styles with different shapes. The direct modem plugs directly into the phone line jack. One problem with the acoustical type is that you will have to dial the number, listen for the connect and then insert the phone in the modem. Another drawback is since it is acoustical you are depending on the characteristics of the speaker and mouthpiece (both mechanical devices) to transfer the high speed electrical signals and possibly any vibrations that may be picked up by the phone. For about \$60 more I felt the direct connect would be the way to go, and since many ATARI bulletin boards use the Hayes I thought that would be the best choice.

Much to my satisfaction the Hayes was a great choice. The manual was very well done, including simple hook-up and operating instructions, block diagrams, quick ref. card, cable connections and a two year warranty. The modem is small - approx. 6 inches wide X 8 inches deep X 1.5 inches high. The front contains seven light emitting diodes which display various modes of operation. The rear has the signal connector, RS-232 jack, power switch, power connector and a volume control. The unit uses an external power supply (ala ATARI) and has an internal speaker to monitor phone activity. The nice part about the unit is the software control you have over the many features which you may use to modify default modes. Once you load up a terminal program all you have to do is type ATD and then the phone number and SHAZAM, Ma Bell makes the connection.

Here is a list of some of the features:

- Auto dial and redial
- Pulse and/or tone dialing
- Echo back
- Full or half duplex operation
- Speaker on/off or only until carrier detect
- Ring to answer from 1-255 rings
- Rings which have occurred 1-255
- Wait for dial tone time 1-255 sec.
- Wait for carrier 1-255 sec.
- Carrier detect time .1-25.5 sec.
- Delay between loss of carrier and hang up .1-25.5 sec.
- Touch-tone duration and spacing 50-255 millisc.
- Only 300 baud operation

The next thing you require is the ATARI 850 Interface and a connecting cable because the HAYES does not come with a cable. You may either use the ATARI cable that is used with the ATARI modem, find one at a dealer (I got mine at

The Computer Center in N.Y.C for aprox. \$35) or build one (I will give some of this info at the end of the article).

The next thing is a terminal program which is loaded by disk prior to using the modem with the computer. A number of programs are available, one is in our JACG library from Houston. This program works well but you must use the menu on the disk prior to loading the program (a handler program is in the menu which boots up the 850). A modification of this program is on the library disk we have from the San Fransico group but be careful - I was getting garbage data with mine. Another is the Chameleon CRT Terminal Emulator from APX and DATALINK by Swiftly which is the one I use and have found to be excellent.

Now here are some numbers you can call. Keep in mind that some of these numbers may still not be active since some BBS systems are like tents in the night and by morning disappear. Also call after 5 P.M. for lower phone rates:

A.C.E. 503-3434352	M.A.C.E. 313-8682064
WASH 202-2768342	COMPUTER AGE 301-5872132
MICROBITS 503-9679075	A.A. 408-9426975
Atlanta 404-2529438	G.R.A.S.S. 616-2411971
Star base 617-8764885	N.Y. 212-5980719

The Compuserve package may be obtained from Radio Shack stores and this will give general information and one free hour of hook-up time. This package does not have software for the Atari so use your own terminal program. The cost of this is aprox. \$20.00. The hourly rate is \$5.00 plus the phone connect to a tie line (their are many in New Jersey). CABLE CONNECTIONS

The cable between the modem and the 850 consists of a 25 pin RS-232 standard male on the modem end and the 9 pin male which goes to the 850. The connections are as follows:

MODEM PIN	to	850 PIN
2		3
3		4
5		8
6		6
7		5
8		2
20		1

Both connectors are made by AMP and may be available at electronic stores, APX and INMAC. You may obtain the INMAC catalog by calling (201)767-3601.

I think I have given you enough information to stir your interest. The one function on the modem that I have not used is the mode which allows the modem to answer the phone and communicate with another computer, but this mode is used in many BBS systems so I know it works well in those situations.

If we have enough interest in modem communication we could form a group within our organization to further these efforts. Until then - "HAPPY MODEMING".

HIGH RESOLUTION SCREEN DUMPING

by Dale Lindblad

(Editors note: This article is reprinted from the July, 1982 TAIG newsletter.)

If you have an EPSON printer with graphics chips, there is a short BASIC subroutine that can be added to a main program to dump a MODE 8 or 24 screen. This routine excludes player-missile graphics and the test in the 4 line text window of GRAPHICS MODE 8.

By obtaining the start of DISPLAY MEMORY from the DISPLAY LIST used by the ANTIC chip for screen refreshing, bytes can be read directly from the display and printed. Each byte contains 8 pixels of screen information (on or off).

The resulting picture is rotated 90 degrees clockwise due to the way the ANTIC chip in the ATARI requires 8-bit bytes arranged for screen refreshing and the way EPSON requires 8-bit bytes arranged for graphics printing. In a nutshell, ANTIC displays bytes horizontally and EPSON displays bytes vertically, so we let ANTIC have it's way and program the EPSON to handle this difference.

DISPLAY MEMORY ARRANGEMENT (MODE 8) PROPERTIES:

- A. 192 scan lines (vertical resolution)
- B. 40 bytes each scan line (7680 bytes total)
- C. 1 byte controls 8 pixels (on or off)
- D. 40 times 8=320 (horizontal resolution)

To illustrate those properties with an example, consider a screen display that has two "on" dots on the first line in the upper left corner that are separated by six "off" dots.

```

-----
/ * *
/
:
:
:

```

The top line and each horizontal line has 320 pixels per byte. The two "on" dots are in the first 8 pixels and so are both parts of the first display byte. The left dot is in the 7-bit (factor 128) position; the right dot is in the 0-bit position (factor 1). The value of the first display byte is thus 129. Since it is assumed that those are the only two "on" dots, each of the other 7679 display bytes is zero.

(con't next column)

EXAMPLE-- PLOT 0,0:PLOT 7,0
UPPER LEFT CORNER OF SCREEN

1st byte=129 2nd byte=0

1

2

8 1

/100000010000000.....40th byte

/ 1st scan line

:

: 00000000

: 41st byte--2nd scan line

:

:

:

: 192nd scan line

EPSON PRINT HEAD IN GRAPHICS MODE

EXAMPLE-- printing an 8 bit byte (129)

128 * pin 1

0

0

0

0

0

0

1 * pin 8

0 pin 9 (not accessed)

READ AND PRINT DISPLAY MEMORY

- A. 40 8-bit vertical lines (320 vertical res)
 - B. 192 bytes per line (192) horizontal res)
- BOTTOM-LEFT CORNER OF SCREEN

/0

/ 0

: 0

: 0 ---->print direction

: 0

: 0

: 0

: 0

: 0

:

:

(con't next page)

--- THE SUBROUTINE ---

```

31000 REM --- FIND BEGINNING OF DISPLAY MEMORY
31010 STRT=PEEK(741)+256*PEEK(742)
31015 ADDR=PEEK(STRT+5)+256*PEEK(STRT+6)
31020 OPEN #3,8,0,"P:"
31030 REM -- SET LINE FEED ADVANCE TO 8 DOTS
31040 ? #3,CHR$(27);"A";CHR$(8)
31050 REM -- PRINT 40 LINES OF 8 VERTICAL DOTS
31060 FOR GI=0 TO 39
31070 REM -- HOME PRINT HEAD (PREVENTS SHORT LINE SEEKING)
31080 ? #3,CHR$(27);CHR$(60)
31090 REM -- PRINT 192 HORIZONTAL DOTS PER LINE
31100 ? #3,CHR$(27);"K";CHR$(192);CHR$(0);
31110 REM -- LOOP BY 40 BYTES FROM BEGINNING OF DISPLAY
MEMORY + 7680 - 40 TO THE BEGINNING OF DISPLAY MEMORY
31120 FOR GJ=7640 TO 0 STEP -40
31130 ? #3,CHR$(PEEK(ADDR+GI+GJ))
31140 NEXT GJ
31150 NEXT GI
31160 CLOSE #3
31170 LPRINT :LPRINT :LPRINT :RETURN

```

You can reduce this routine to about 4 lines.

NOTE: You can do INVERSE printing by changing--

```
31130 ? #3,CHR$(255-PEEK(ADDR+GI+GJ))
```

* * *

MONEY SAVING TIP

Looking for a printer stand but can't stand the high prices. I didn't want to pay \$25-35 for a hunk of plastic either. Instead, I bought a \$2.99 letter tray at TARGET. It sits under my MX-80 just like the expensive model. If you would like to keep 2 forms under your printer then stack 2 together (trays have tabs to keep them from slipping apart). If you have an MX-100 and use wider paper then visit your local office supply store. Ask for a plastic computer printout tray. These sizes sell for about \$6-7 and also have tabs to allow stacking.

UNCLASSIFIED ADS

(MILATARI will post ads for its members at no charge. Others \$1.00 per issue. Send ad info to newsletter editor by 1st Saturday of month)

B & W TV: Can be used as monitor only - \$10.00. Call Betty Morris at 367-5953.

SOFTWARE: MILATARI members Jim Luty and Bill Simotti are selling software at a discount to members. Call Jim at 421-3135 or Bill Simotti at 352-1790 for prices.

OSCILLOSCOPE: Heathkit model IO104 DC to 15MHz scope. New - \$350 Will sell for \$175. Call Bruce Chandler @ 1-594-3360.

CONTEST!!

BRAIN PUZZLE

(The idea for this feature is from the M.A.C.E. Newsletter - July, 1982 issue.)

This new feature will appear in this newsletter each month. Monthly, a new puzzle will be presented along with a review of the previous months' puzzle.

The puzzles are selected to show you ways to have fun and learn with your computer. The proper method to solve these puzzles requires the writing of a computer program to find the answer. To further encourage you, we will award the first winner of each contest a blank disk or tape - their choice!

What we would like (besides the right answer) is a few tidbits about how you solved the problem, such as: what language, how many statements, and how long did it take the computer to arrive at the answer.

The correct entry bearing the earliest postmark will be considered the winner. No entries accepted after midnight, August 31, 1982. All entries become the property of MILATARI. Winner will receive a certificate good for one blank disk or tape. In the event of a tie, more than one winner may be selected. Respond only by mail. No phone calls please.

Address your entry to:

MILATARI PUZZLE
P.O. Box 1191
Waukesha, WI 53187

PUZZLE # 1

Our club president, Gary, bought 100 diskettes, which he has been selling at the MILATARI meetings. After selling some over several meetings, at last month's meeting he had the remaining ones arranged neatly in 6 rows, with the same number of diskettes in each row. He sold 8 diskettes at that meeting. At this month's meeting, he has the remaining diskettes again arranged neatly in 11 rows, each row having just as many diskettes as each other row.

The puzzle is: HOW MANY DISKETTES DOES GARY HAVE FOR SALE?

Hint: There are two correct answers!

HOW TO WRITE A PROGRAM

By Dale Eisenberger

So you want to write a program. Fantastic! That's why we bought Atari computers in the first place.

"I've never programmed before. What do I do now?" you ask. "Where do I begin?"

In very general terms, a program receives inputs, does something with those inputs (processes them), and produces outputs. What do you want your program to do? For an example, say that we want the program to:

1. Receive 2 inputs from the keyboard.
2. Multiply the two numbers together.
3. Print the two numbers and the answer on the screen.

This process of breaking down what the program should do is known as an overview. Notice there is a lot of detail included. Until you have decided what you want to do, you can't decide how you should do it.

You start by writing notes on the program down on paper. Except in simple programs, the variables become too numerous to remember. Make three columns, labeling the INPUTS, PROCESSES, and OUTPUTS. Underline your variables so that they are easier to spot.

Start with OUTPUTS first. This is important. Remember, until you decide what you want, you won't know how to go about doing it. Put this under the OUTPUTS column:

PRINT something+something= something

We know that there will be two input variables and an answer. We'll call these variables IN1, IN2 and ANSWER. It is important to put these variables in their proper column since these variables start elsewhere. Put the first two variables, IN1 and IN2 in the INPUTS column. Also place some descriptive information with them, such as, "This is the first number from the keyboard that will be part of the multiplication calculation." ANSWER is a working variable. Put it under the PROCESS column.

Next, under the PROCESS column, write down how you are getting your answer. The entry might look something like this:

IN1 x IN2 = ANSWER

Or, remembering how BASIC sets up it's calculations:

IN1*IN2=ANSWER

Under the the column INPUTS, write what you wanted to input:

Recieve two inputs from the keyboard.

TO SUMMARIZE:

1. Define what you want your program to do (Overview)
2. Write down your program notes on paper.
3. As you find a need for variables, name them, describe them, classify them as INPUT, PROCESS or OUTPUT and place them under their appropriate columns.
4. Start with your OUTPUTS when you're analyzing your program.
5. When possible, put your notes in BASIC format.

It really was a simple program, wasn't it?

```
10 INPUT IN1,IN2
20 ANSWER=IN1*IN2
30 PRINT IN1;"*";IN2;"=";ANSWER
40 END
```

* * *

NEWSLETTERS

Newsletters which are received from other groups will be cataloged in our club library and are available for any member at our monthly meeting. We are currently receiving newsletters from:

the Atari Computer Association of Orange County, Ca.
the Madison Wisconsin Atari Users
the Michigan Atari Computer Enthusiasts
the West Valley ATARI Users Group
the Twincity ATARI Interest Group
the ATARI Computer Club of Toledo
the Waterloo ATARI users Group
the Jersey ATARI Computer Group
the Birmingham Atari Group
the Austin Atari Computer Enthusiasts

We thank those groups for their participation in newsletter exchange.

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All articles are written and donated by the membership. Opinions expressed in this publication are those of the individual author and do not necessarily represent, nor reflect, the opinions of the Milwaukee Area ATARI Users Group, nor those of any other commercial or non-commercial organizations. Any article appearing in this newsletter may be reproduced, providing credit is given to the author and to the Milwaukee Area ATARI Users Group.

MEMBERSHIP INFORMATION

Membership is open to individuals who have an interest in using and programming ATARI computers. The membership includes the subscription to this newsletter and free access to the users' program library. The membership fee is \$12.00 per year. Single newsletters are \$1.00. A guest may attend one meeting at no charge.

SOFTWARE EVALUATION FORM

(All software evaluations will become part of our library)

Your name _____

Program name _____

Where purchased _____ Price _____

Cassette or disk _____ Transferable to disk Y/N ____

Program language(circle) Machine/Basic/Assembler/Pascal/Other

Memory requirements _____K Require special hardware Y/N ____

Program requires: (circle all that apply)

PADDLES JOYSTICKS KEYBOARD PRINTER MODEM OTHER(specify)

If program is a game;

Time limit for game Y/N ____

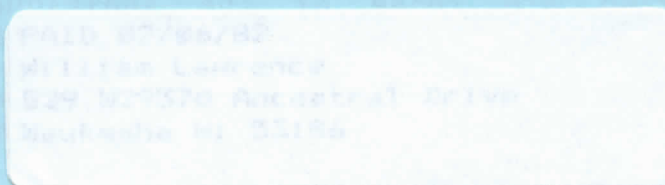
Increasing difficulty Y/N ____

Multiple players Y/N ____ number of players ____

Quality of program:(circle) POOR FAIR GOOD EXCELLENT

Would you recomend this program to others Y/N ____

Milwaukee Area ATARI Users Group
c/o David Frazer, Editor
P.O. Box 648
Waukesha, Wisconsin 53187-0648



User group meets the 3rd Saturday of each month beginning at 3:30 PM.
Meetings are held in the community room of the Waukesha State Bank located
at 110 Madison Street, Waukesha.